

Work Order ID 84517

May-15-12 10:39:30 AM

84517

Page 1

Item ID: D3391-013

Accept

N9000040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Mid Tube Assembly

Start Date: 15/05/2012 Start Qty: 1.00

1

Cust Item ID:

Required Date: 06/06/2012 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: *ML5*

Date: *12/05/15* Tooling:

Date:

Run Start *NR1*

QC:

Date: SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3391

I

100

0.00

100

Skidtubes

0.00

Skidtubes

Skidtubes

Memo

1-Cut tube to finish length as per Dwg D3391

2-Identify as D3391-013

3-Drill pilot holes using DT8796 (including "B" holes) and drill only 1 fwd saddle-hole on one side only as per Dwg D3391

4-Open saddles and GHW holes to Ø0.375" except for fwd saddle hole of detail "J"

5-Remove .030" from Fwd indexing Ridge as per Dwg D3391

6-Remove indexing ridge on Fwd & Aft end of skidtube as per Dwg D3391

7-Deburr

8-Drill #30 pilot holes using wearplate Jig DT8217 Identify Ø0.250" holes with paint marker,

9-Open wearplate holes of D3391-013 assembly detail section G-G to Ø0.250" (14 holes) as per Dwg D3391 and 2 holes in section Detail "J", do not open wearplate holes of section "J"

10-Open wearplate holes of D3391-013 assembly detail section H-H to Ø0.297" (20 holes) as per Dwg D3391

Dr. 12/05/29

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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May 15 12 10:39:30 AM

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N900040100

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Start Date: 15/05/2012 Start Qty: 1.00

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Cust Item ID:

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Process Plan:

Date:

Tooling:

Date:

Run Start *NR1*

QC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

11-Open .375" holes to .438" ***do not open fwd saddle holes***

12- Locate electric step holes at 39.6875" from fwd end and drill using DT 9612

13-Locate D3391-021 in D3391-023 at 9.00" (see view z-z)

14- Transfer drill one fwd saddle hole only to .188" dia, transfer drill all remaining fwd saddle holes using DT 8149 locating from previously drill .188" dia hole, using t-pins and clicos to ensure perfect allingment, open up previously tranfer drilled pilot holes in D3391-013/-011 to 0.438" dia. in D3391-011

15- ~~Transfer drill 2 wearplate holes into D3391-011 using DT8217, locating from two prevjusly drilled holes,~~ drill remaining wearplate holes into D3391-011.

16- Locating from two fwd wearplate holes drill remaining 6 wearplte holes in D3391-011 using DT8937

17- ~~Open 2 fwd wearplate holes in D3391-013 to .250" dia.~~

18- ~~counterbore two aft wearplate holes in D3391-011 as per dwg~~

19- Open ¹⁰ wearplate holes in D3391-011 to 0.297" dia.

20- Deburr and blow out all chips from inside tube

De 12/08/29

De 12/06/06

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
110 *110* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00		Srlobel					
120 *120* HandFinish Hand Finishing	Chemical Conversion Coat per QSI005 4.1 Memo	0.00 0.00		De SHD 12-06-05					
130 *130* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00		SAD 12-06-05					

W/O:		WORK ORDER CHANGES					
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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140	Skidtubes	0.00							
140									
Skidtubes	Memo	0.00							
Skidtubes	1- Open holes to finish size as per dwg.								
	2- Prepare for welding								
	3- Bond web in place as per Dwg D3391 & QSI 015.								
	*****Ensure Web Alignment *****								
	A/R Sikaflex Batch: <u>M121459</u>								
	Exp. date: <u>13-4-12</u>								
150	QC5- Inspect part completeness to step on W/O	0.00							
150									
QC	Memo	0.00							
Quality Control	Inspect each insert using DT8821								

DC 12/06/06

CF 12-6-6

1 0 BE 12/06/07

W/O:		WORK ORDER CHANGES					
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Reference:

Approvals:

Process Plan: _____

Date: _____

Tooling: _____

Date: _____

Run Start ***NR1***

QC: _____

Date: _____

SPC (Y/N): _____

Date: _____

Stop ***NR2***Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

160

0.00

160

Skidtubes

0.00

Skidtubes

Memo

1-Weld crossbolt spacer as per dwg D3391 & QSI 004
A/R ALUM Batch: m120854

BE 12/06/07

2-grind weld flush

3- Transfer drill electric step pilot holes only from D3391-013 into D3391-015

4- Open electric step holes 0.391" per dwg D3391 (section L-L)

5- Open electric step holes 0.297" per dwg D3391 (section M-M)

6- Open electric step holes 0.250" per dwg D3391 (section LL-LL)

DC 12/06/07

170

QC10- Inspect visual per QSI004- ground welds

0.00

170

QC

Memo

0.00

Quality Control

8/12/06/07

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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180	QC5- Inspect part completeness to step on W/O	0.00							
180									
QC	Memo	0.00							
Quality Control									

185	Pressure Wash per QSI005 4.3	0.00							
185									
HandFinish	Memo	0.00							
Hand Finishing	AND REALODINE AS PER PAR09-043								

190	White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum	0.00							
190									
Powdercoat	Memo	0.00							
Powder Coating	***Use paint screws to mask inserts*** START TIME: 2:23 OVEN TEMPERATURE: 320°F FINISH TIME: 2:50								

M121134

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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 Required Date: 06/06/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
200 *200* QC Quality Control	QC3- Inspect Part Finish Memo	0.00 0.00				1x	6	12/06/13	
210 *210* Skidtubes Skidtubes	Skidtubes Memo 1- insert D3391-011 into D3391-13 2- insert T-pins into first and third fwd saddle holes 3- ON FIRST SIDE ONLY drill out 2nd and forth fwd saddles holes to 0.500" as per DSI 9364 4- remove T-pins and locate DT9415 from first and third crossbolt hole using T-pins and clekos 5- ON 2ND SIDE ONLY ream out 2nd and forth saddle hole to 0.499". Remove DT9415 6- deburr, re-alodine and blow out chips 7- press fit D3591-1 spacers using DT9416 starting from 0.500" side	0.00 0.00				1x	6	12/06/13	

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May-15-12 10:39:30 AM

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N900040100

Setup Start *NS1*

Stop *NS2*

Start Date: 15/05/2012 **Start Qty:** 1.00

1

Cust Item ID:

Required Date: 06/06/2012 **Req'd Qty:** 1.00

1

Customer:

Reference:

Approvals: _____ **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

**Insp.
Stamp**

220

QC5- Inspect part completeness to step on W/O

0.00

220

QC

Memo

0.00

Quality Control

230

0.00

230

HandFinish

HandFinishing

Memo

0.00

Hand Finishing

Install inserts

240

QC5- Inspect part completeness to step on W/O

0.00

240

QC

Memo

0.00

Quality Control

Inspect thread of each insert using DT8821

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W/O:		WORK ORDER CHANGES					
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 QA: N/C Closed: _____ Date: _____

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 Required Date: 06/06/2012 Req'd Qty: 1.00 ***1*** Customer:
 Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
250	HandFinishing	0.00							
250	HandFinish	0.00				1x	φ	11	n/06/13
Hand Finishing	✓ Memo Assemble as per dwg D3391								
260	QC5- Inspect part completeness to step on W/O	0.00							
260	QC	0.00							
Quality Control	Memo								
270	Identify as per dwg & Stock Location: <u>w/o</u>	0.00							
270	Packaging	0.00							
Packaging	Memo					1x	φ	10	n/06/13

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84517

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N900040100

Setup Start *NS1*

Stop *NS2*

1

Cust Item ID:

*** 1 ***

Customer:

Reference:

Run Start *NR1*

Stop ***NR2***

**Insp.
Stamp**

0.00

280

QC

Memo

0.00

Quality Control

UNF
1206/2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Picklist Print

May-15-12 10:39:33 AM

Page 1

Work Order ID: 84517

84517

Parent Item: D3391-013

D3391-013

Parent Item Name: Mid Tube Assembly

Start Date: 15/05/2012

Required Date: 06/06/2012

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP A05.12.13New IssueEC
 IPP B06.02.09Dwg rev.D EC
 IPP Rev:06-03-28 Update Manufacturing Instructions JLM
 IPP rev D 07.03.14 dwg Rev F EC
 IPP Rev:E ECN 1056 07-11-13 DD verified by: EC
 IPP Rev:F 08-07-28 chg 0.332" to 0.391" dim. hole in comment DD verified by:EC
 IPP Rev:G 08-09-08 new process (ecn 08-510) DD verified by:EC
 IPP Rev:H 08-09-10 revH as per dwg DD verified by:EC IPP rev J
 10.03.30 revised process, added D3391-015 to pick list EC verified : DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

AN960C10L

NAS1149C0332

Purchased

No

Each

0.0000

4

AN960C10L ✓

washer

D3672-1

Manufactured

No

Each

1,214.000

10

D3672-1

Phenolic Washer

10/10

**

11121509 (vul) H1106113

**

Location

Loc Qty

Loc Code

ST060

1214

72229

4

76277

210

80369

500

83608

500

D2500-1-100

Manufactured

No

100

Each

85.0000

1

1

D2500-1-100

Skidtube Extrusion

**

12/05/29

Location

Loc Qty

Loc Code

HALL

85

50251

12

82373

73

11

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Parent Item Name: Mid Tube Assembly

Start Date: 15/05/2012

Required Date: 06/06/2012

Start Qty: 1.00

Required Qty: 1.00

MS27039C4-08

Purchased

No

100

Each

98.0000

4

4

MS27039C4-08

SCREW

**

HL ulocel

Location

Loc Qty

Loc Code

FP002

7

17831

7

X4

ST293

91

114721

91

D3391-011

Manufactured

No

140

Each

0.0000

1

1

D3391-011

Fwd Tube Assembly

D3391-015

Manufactured

No

160

Each

0.0000

1

1

D3391-015

Aft Tube Assembly

D3681-1

Manufactured

No

160

Each

87.0000

12

12

D3681-1

Spacer

**

DC 12/06/14

BE 12/06/07

Location

Loc Qty

Loc Code

LG

77

80361

1

84053

76

12

LG001

10

68958

2

69893

2

71845

2

74874

1

76004

1

77501

2

May-15-12 10:39:34 AM

Shop Packet Print

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W/O:		WORK ORDER CHANGES					
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D3391-013

Parent Item Name: Mid Tube Assembly

Start Date: 15/05/2012

Required Date: 06/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3389-1 Manufactured No

210 Each 6.0000 1 1

D3389-1

Web

**

CF 12612

Location

Loc Qty

Loc Code

LG

6

82389

2

83848

4

230 Each 904.0000 10 10

**

ALS4-1032-225

Purchased No

AI S4-1032-225

Insert

Location

Loc Qty

Loc Code

ST281

881

108696

146

110768

62

118386

55

118966

68

121269

550

ST282

23

120410

10

120451

13

230 Each 453.0000 4 4

**

HL 121006113

ALS4-428-165

Purchased No

AI S4-428-165

Inserts

Location

Loc Qty

Loc Code

FP002

453

114172

18

117769

435

Y4

Dart Aerospace Ltd

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Start Date: 15/05/2012

Required Date: 06/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3591-1 Manufactured No

230 Each

104.0000 2 2

D3591-1

Bushing

**

HL 12/06/13

Location

Loc Qty

Loc Code

FP

5

80377

4

82027

1

ST055

99

57350

1

83237

98

✓2

ALS4-1032-130

Purchased No

250 Each

3,301.000 26 26

ALS4-1032-130

Insert

**

HL 12/06/12

Location

Loc Qty

Loc Code

ST280

205

119084

116

120671

89

ST281

174

120807

36

120837

138

ST282

2922

121269

2922

✓26

AN3C4A

Purchased No

250 Each

1,969.000 10 10

AN3C4A

BOLT

**

Location

Loc Qty

Loc Code

ST350

1969

120187

63

120521

28

120769

38

121205

1000

121556

840

May-15-12 10:39:34 AM

Shop Packet Print

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-15-12 10:39:34 AM

Work Order ID: 84517

84517

Parent Item: D3391-013

D3391-013

Parent Item Name: Mid Tube Assembly

Start Date: 15/05/2012

Required Date: 06/06/2012

Start Qty: 1.00

Required Qty: 1.00

AN960C10L NAS1149C0332 Purchased No

250 Each 0.0000 10 10

AN960C10L

**

washer

AN960C416L Purchased No

250 Each 0.0000 4 4

AN960C416L

**

WASHER

D3401-041 Manufactured No

250 Each 13.0000 1 1

D3401-041

**

Tow Cap Assembly

Location

Loc Qty

Loc Code

FP002

13

78990

1

82302

12

D3564-13 Manufactured No

250 Each 30.0000 1 1

D3564-13

**

Wearshoe

Location

Loc Qty

Loc Code

FP001

1

71594

1

FP002

29

80342

7

82249

22

D3566-13 Manufactured No

250 Each 19.0000 1 1

D3566-13

**

Gasket

Location

Loc Qty

Loc Code

FP

12

83351

12

FP002

7

76947

7

May-15-12 10:39:34 AM

Shop Packet Print

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Vérification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May-15-12 10:39:34 AM

Work Order ID: 84517

84517

Parent Item: D3391-013

D3391-013

Parent Item Name: Mid Tube Assembly

Start Date: 15/05/2012

Required Date: 06/06/2012

Start Qty: 1.00

Required Qty: 1.00

D3672-1 Manufactured No

250

Each

1,214.000

4

4

D3672-1

Phenolic Washer

**

Handwritten: 12/06/12

Location

Loc Qty

Loc Code

ST060

1214

72229

4

76277

210

80369

500

83608

500

Handwritten: x4

D3672-3 Manufactured No

250

Each

5.0000

4

4

D3672-3

Phenolic Washer

**

Handwritten: 12/06/12

Location

Loc Qty

Loc Code

ST060

5

83238

5

Handwritten: 1384361

Handwritten: x4

MS27039C1-09 Purchased No

250

Each

121.0000

4

4

MS27039C1-09

SCREW

**

Handwritten: 12/06/12

Location

Loc Qty

Loc Code

FP002

28

17831

28

ST293

93

116290

93

Handwritten: x4

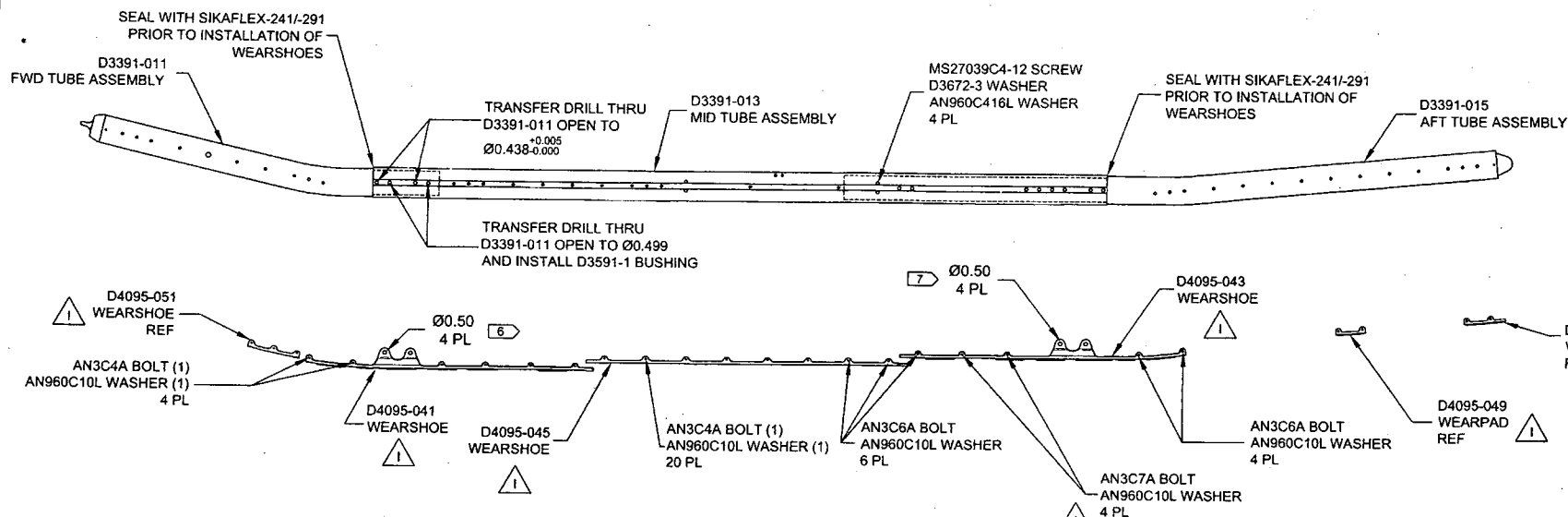
Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-041 ASSEMBLY

SHOP COPY
RETURN TO
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UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

RELEASED
2011-11-04
ECN# 11-662

D3391-041 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
1	D3391-011	FWD TUBE ASSEMBLY
1	D3391-013	MID TUBE ASSEMBLY
1	D3391-015	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
4	D3672-3	WASHER
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARSHOE
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER
4	MS27039C4-12	SCREW
4	AN960C416L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL Ø0.297 SIZE HOLES
FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT
WHERE INDICATED.
- 6) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-041
- 7) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH
THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND
TRANSFER DRILL Ø0.50 HOLES FROM SADDLE TO D4095-043

REV.	DESCRIPTION	BY	DATE
I	REMOVE GASKETS AND REPLACE ALL WEARSHOES; PARTS LIST UPDATE, ZN A8-1, ZN A8-2, ZN A8-4, ZN B6-8, LPS-3 COATING REMOVED FROM NOTE 2, ZN A3-1, ZN A3-2, REMOVED INSERT AELS-1032-130, ZN B6-4, B2-4, C7-8, C3-8, REMOVED HOLES, ZN D8-4 ZN D2-4, ZN D7-8, ZN D3-8	XDF	11.10.13
H	DRAWING UPDATED TO CURRENT STANDARDS. SHT 1 PL ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. SHT 2 PL ADDED D3591-1 BUSHING, ZN C6 Ø0.438 DIM WAS 4 PL. ADDED Ø0.499 DIM AND D3591-1 BUSHING. (FOR FURTHER INFO SEE DSI 9364 & NCR 08-074)	AJS	08.08.20
G	REPLACE NAS INSERTS W/ AELS INSERTS SWITCH TO D3670-XXXX SPACERS FOR INSTALLING FLOAT BAGS, DWG REORGANIZED FOR CLARITY	DC	07.07.31
F	ADD SS WEARSHOE, GASKET REMOVE FWD SADDLE HOLE -011/-021	PH	07.01.18
E	CHANGE TOLERANCE, EASE MANUFACTURE	PH	06.04.25
D	UPDATE TOLERANCE, CHANGE HOLE SIZE	PH	06.01.23
C	LENGTHEN AFT EXTENSION	PH	05.09.27
B	DRAWING UPDATES	PH	05.06.10
A	NEW ISSUE	PH	05.02.07
DESIGN	PH	DATE	
DRAWN	XDF	DATE	
CHECKED		DATE	
MFG. APPR.		DATE	
APPROVED		DATE	
DE APPR.		DATE	
DATE	11.10.13		

DART AEROSPACE USA, INC
KENT, WA
DRAWING NO. D3391
TITLE 412 FLOAT SKIDTUBE
REV. I
SHEET 1 OF 8
SCALE NTS
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

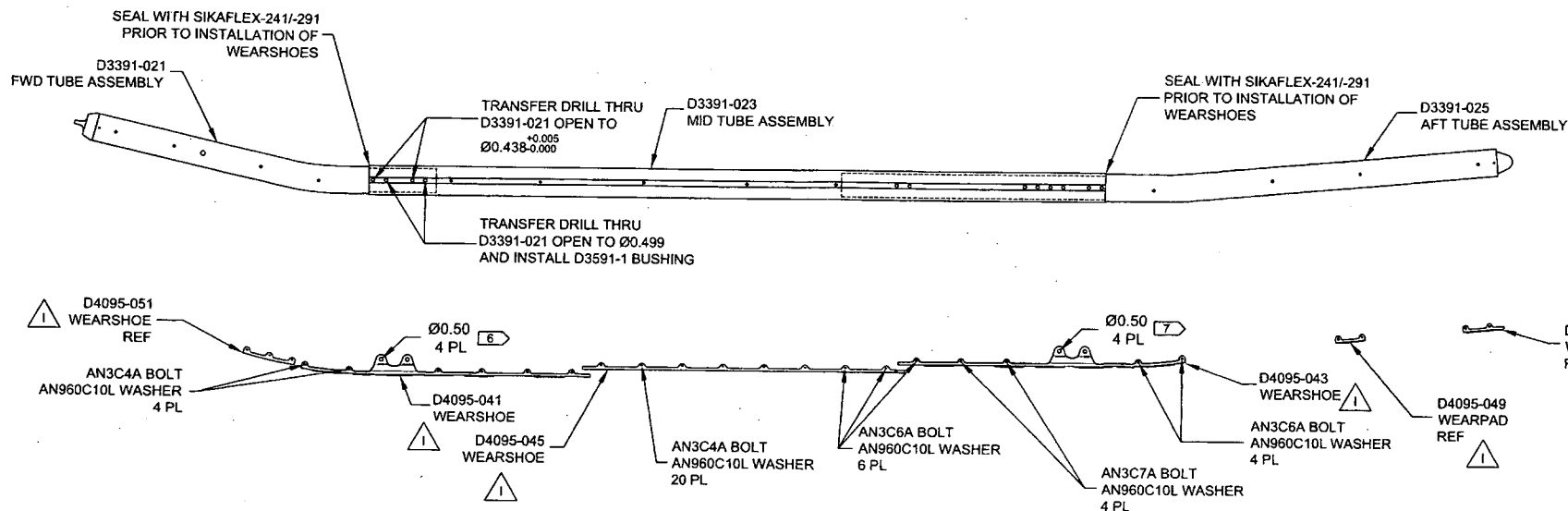
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

24577





D3391-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY	PART NUMBER	DESCRIPTION
X	D3391-043	FLOAT SKIDTUBE ASSEMBLY
1	D3391-021	FWD TUBE ASSEMBLY
1	D3391-023	MID TUBE ASSEMBLY
1	D3391-025	AFT TUBE ASSEMBLY
2	D3591-1	BUSHING
1	D4095-041	WEARSHOE
1	D4095-043	WEARSHOE
1	D4095-045	WEARSHOE
1	D4095-047	WEARSHOE
1	D4095-049	WEARSHOE
1	D4095-051	WEARSHOE
24	AN3C4A	BOLT
10	AN3C6A	BOLT
4	AN3C7A	BOLT
38	AN960C10L	WASHER

GENERAL NOTES

- 1) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- 2) COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON"
- 3) AFTER FINAL ASSEMBLY, CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- 4) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 0.297 SIZE HOLES FOR WEARSHOE INSERTS. C'BORE AS NOTED AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- 7) FIT D4095-041 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL 0.50 HOLES FROM SADDLE TO D4095-041
- 8) FIT D4095-043 TO SKIDTUBE WITH D2571 AND D2572 SADDLES INSTALLED WITH THE APPROPRIATE HARDWARE AND SPACERS IN FORWARD AND AFT HOLES AND TRANSFER DRILL 0.50 HOLES FROM SADDLE TO D4095-043

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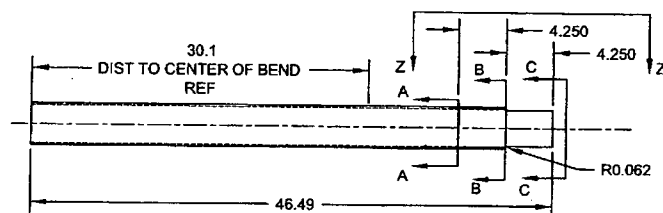
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

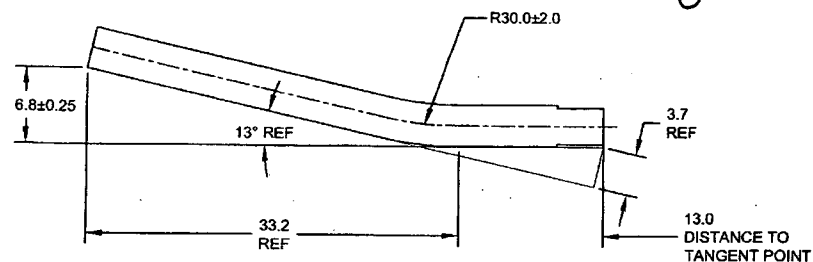
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

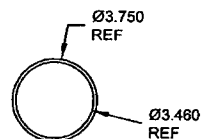
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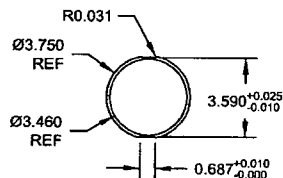
D3391-1 CUTTING DETAIL
(MAKE FROM D6013-047 SKIDTUBE MATERIAL)



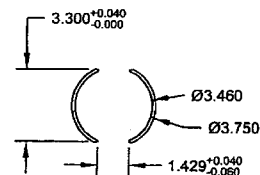
D3391-011/-021 BENDING DETAIL
(MAKE FROM D3391-1)



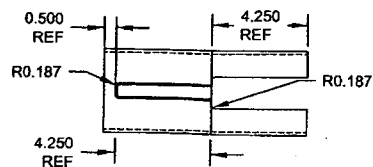
SECTION A-A
SCALE 2X



SECTION B-B
SCALE 2X



SECTION C-C
SCALE 2X



VIEW Z-Z
SCALE 2X

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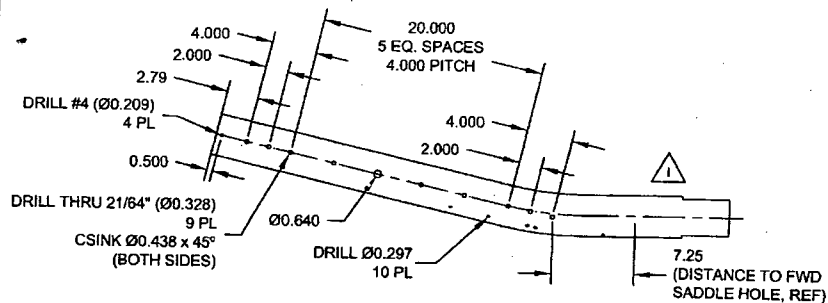
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

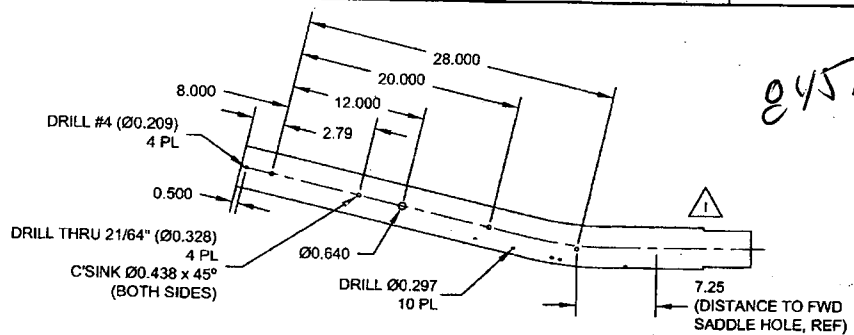
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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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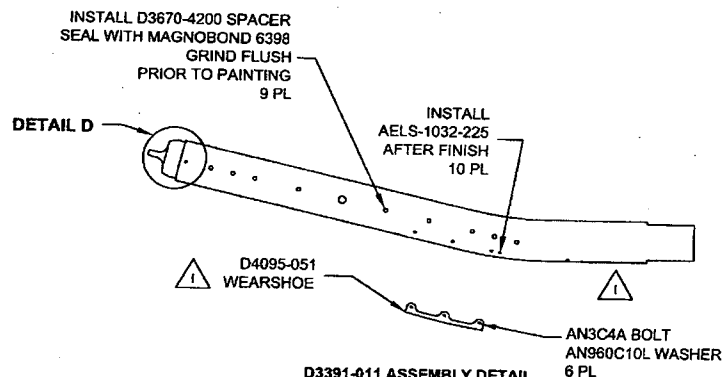
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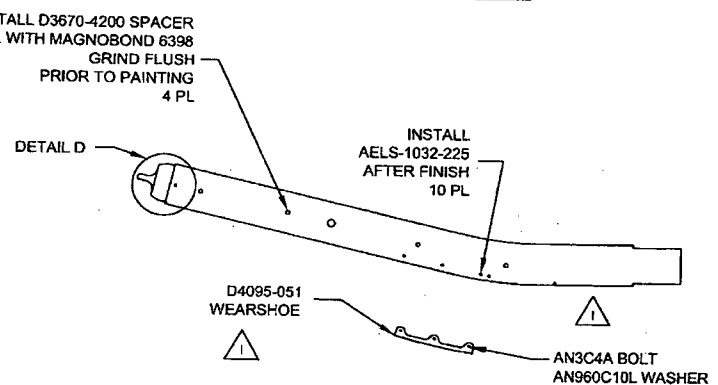
D3391-011 DRILLING DETAIL



D3391-021 DRILLING DETAIL



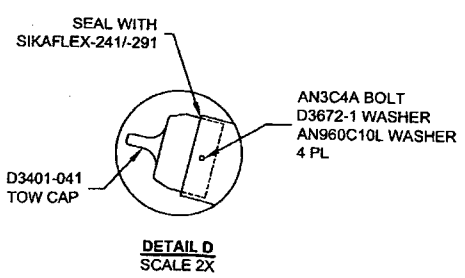
D3391-011 ASSEMBLY DETAIL



D3391-021 ASSEMBLY DETAIL

D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D3401-041	TOW CAP
9	4	D3670-4200	SPACER
4	4	D3672-1	WASHER
1	1	D4095-051	WEARSHOE
1	1	D6013-047	FWD TUBE
10	10	AN3C4A	BOLT
10	10	AN960C10L	WASHER
10	10	AELS-1032-225	INSERT



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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



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MFG. APPR.	<i>[Signature]</i>	D3391	SHEET 5 OF 8
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

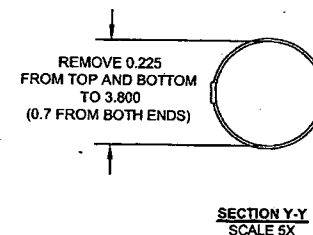
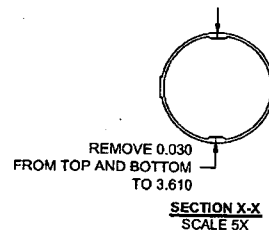
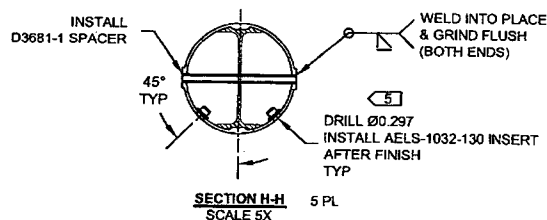
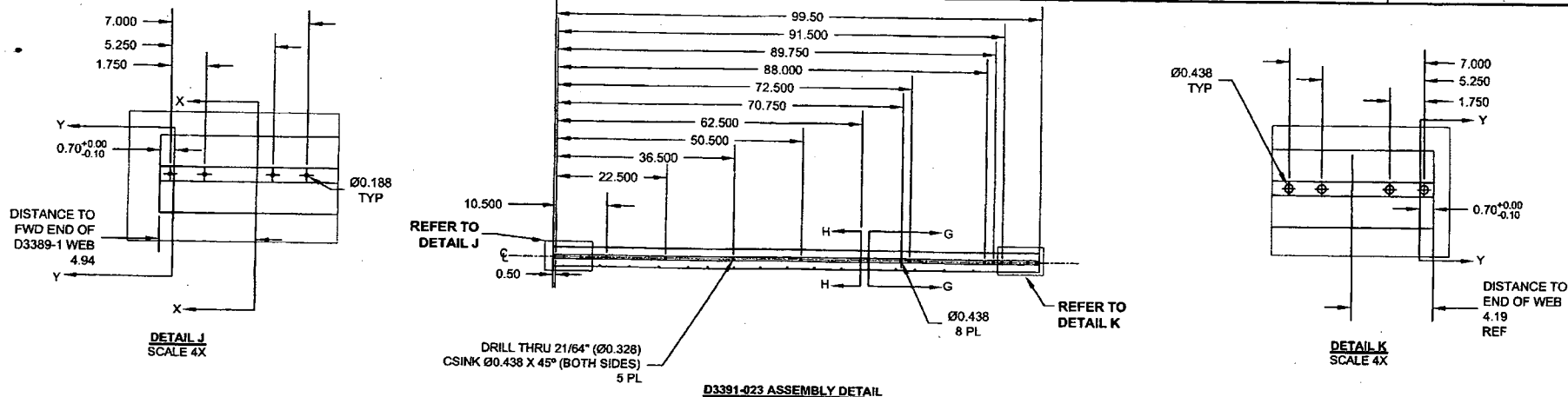
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Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

84577



D3391-023 MID TUBE ASSEMBLY PARTS LIST

QTY - 023	PART NUMBER	DESCRIPTION
X	D3391-023	MID TUBE ASSEMBLY
1	D2500-1-100	EXTRUSION
1	D3389-1	WEB
5	D3681-1	SPACER
20	AELS-1032-130	INSERT

D3391-023 MID TUBE ASSEMBLY

- 1) MATERIAL: MAKE FROM D2500-1-100 EXTRUSION
- 2) INSTALL D3389-1 WEB TO OUTER TUBE USING SIKAFLEX-2411/291 PER QSI 015
- 3) WELDING: PER DART QSI 004

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2011-11-04

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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

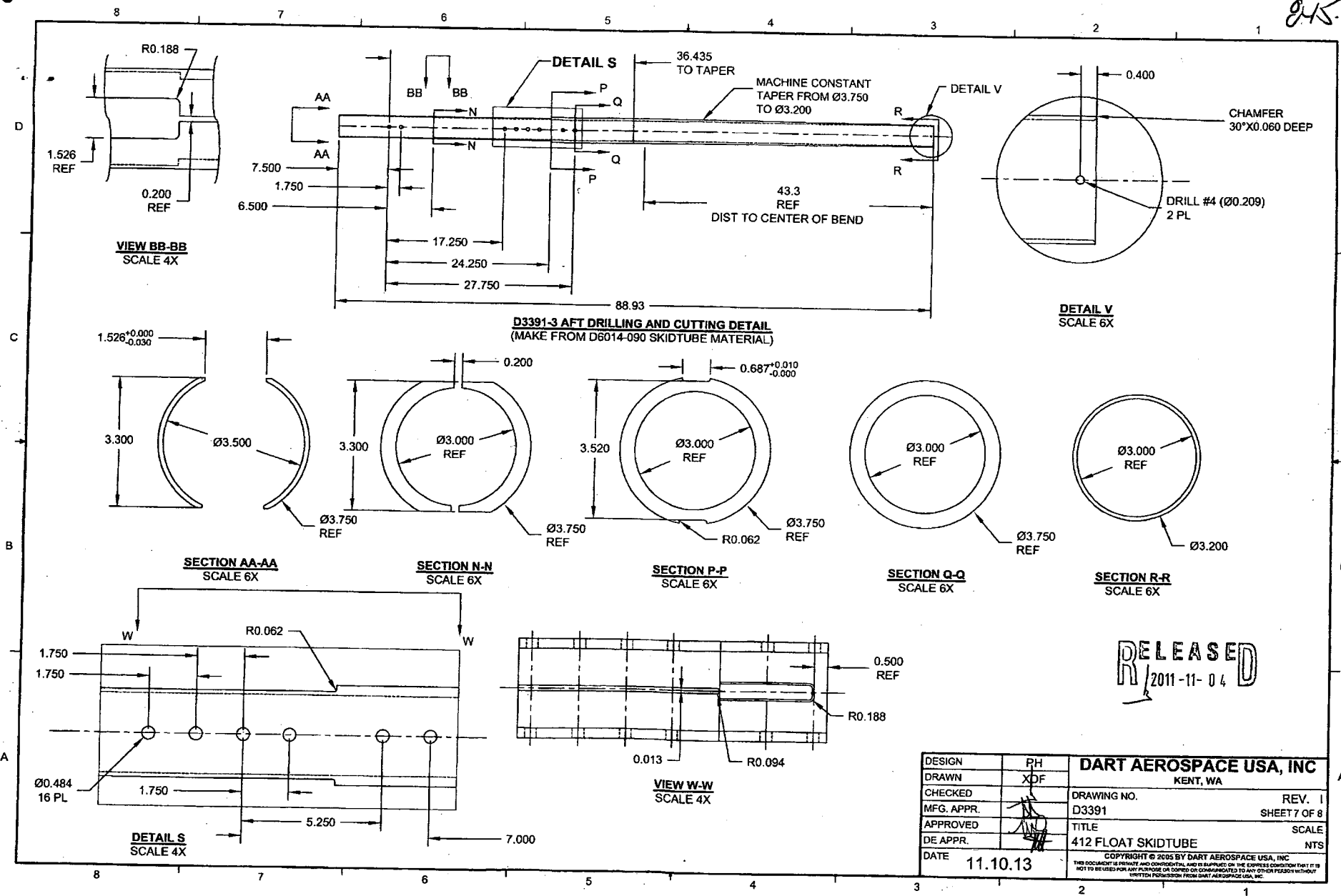
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

2.15.17



DESIGN	RH	DART AEROSPACE USA, INC KENT, WA	
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W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

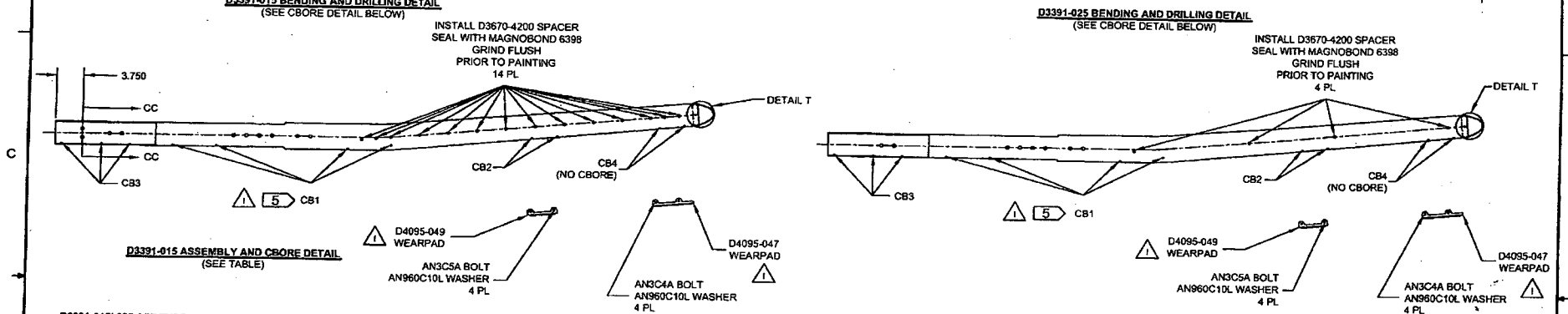
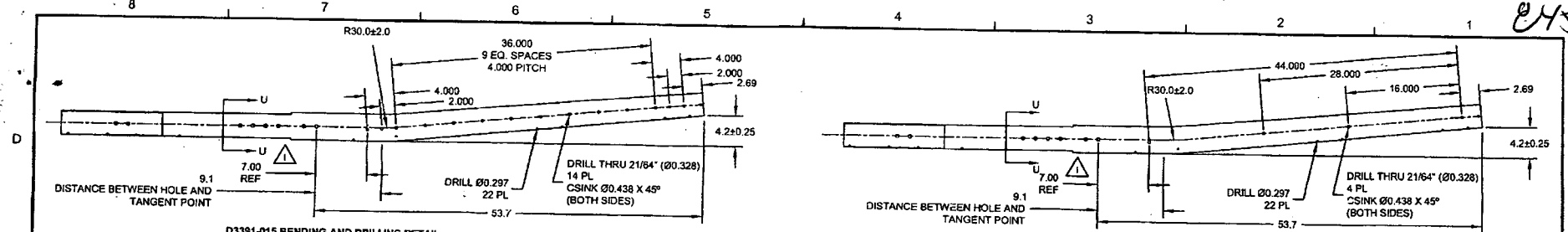
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

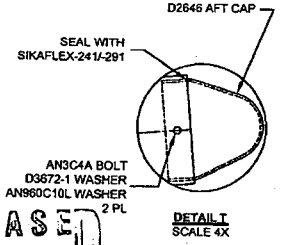
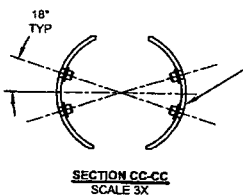
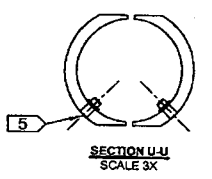
NOTE: Date & initial all entries

04517



D3391-015-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X	X	D3391-015	AFT TUBE ASSEMBLY
		D3391-025	AFT TUBE ASSEMBLY
1	1	D2646	AFT CAP
14	4	D3670-4200	SPACER
2	2	D3672-1	WASHER
1	1	D4095-049	WEARPAD
1	1	D4095-047	WEARPAD
1	1	D6014-090	AFT TUBE
14	14	AELS-1032-130	INSERT
8	8	AELS-1032-225	INSERT
4	4	ALS4-428-165	INSERT
6	6	AN3C4A	BOLT
4	4	AN3C5A	BOLT
10	10	AN960C10L	WASHER



RELEASED
2011-11-04

CBORE HOLES MARKED CB1-CB4 AS FOLLOWS AND INSTALL AELS-1032-XXX AFTER FINISH AS NOTED

HOLES MARKED	QTY D3391-015	QTY D3391-025	CBORE	P/N
CB1	8	8	Ø0.430 X 0.170	AELS-1032-225
CB2	4	4	Ø0.430 X 0.170	AELS-1032-130
CB3	6	6	Ø0.430 X 0.040	AELS-1032-130
CB4	4	4	NONE	AELS-1032-130

DESIGN	PH	DART AEROSPACE USA, INC KENT, WA
DRAWN	XDF	
CHECKED		DRAWING NO. REV. 1
MFG. APPR.		D3391 SHEET 8 OF 8
APPROVED		TITLE SCALE
DE APPR.		412 FLOAT SKIDTUBE NTS
DATE	11.10.13	COPYRIGHT © 2005 BY DART AEROSPACE USA, INC THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMBINED OR REPRODUCED IN ANY MANNER WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & Initial all entries

NO. 296

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 85161
Part number: A3391-023
Description: Skid
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier David David Date of Test Coupon 12-06-07

Welder Barclay Elliott Date of Test Coupon 12-06-07

The above named individual is qualified in accordance with AWS D17.1.2001 to weld